

## **REMARKS**

Claims 25-45 are pending in the application. Applicant has added new claims 46-51.

Claims 27 and 29 are objected to under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant respectfully traverses this rejection.

Claim 27 recites conducting a test on the proposed asphalt emulsion mixture for modulus. Claim 27 is dependent upon claim 26 which recites conducting a stability test. Stability test and modulus test are not the same tests. Specifically, a stability test measures the maximum applied load and is considered failure load. This is different from modulus which is considered non-destructive and is essentially stress divided by strain, tested in the elastic region.

Claim 26 is dependent upon claim 25 which recites conducting a raveling test and a moisture susceptibility test. Therefore, Claims 26 would include conducting three tests: raveling, moisture susceptibility and stability. Claim 27 would include conducting all four tests: raveling, moisture susceptibility, stability and modulus.

Claim 29 recites conducting a test on the proposed asphalt emulsion mixture for modulus. Claim 29 is dependent upon claim 25 which recites conducting a raveling test and a moisture susceptibility test. Thus, Claim 29 would include conducting three tests: raveling, moisture susceptibility, and modulus.

Claim 28 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. Applicant respectfully traverses this rejection. The Examiner states that Applicant did not include a description of how a resilient

modulus test on paving material would be conducted. The Examiner also references the Marshal Stability Test which is a different test from the resilient modulus test and as the Examiner correctly states the Marshall Stability Test would not be capable of testing the modulus of resiliency of material.

One skilled in the art would understand the method by which resilient modulus is tested as being taught by ASTM D4123, a standard method for asphalt testing. The teaching of the application is to conduct the resilient modulus test at the specified temperature of 25 degrees. Thus, one skilled in the art would have all they need to know from the patent application and the standard test method to successfully conduct the resilient modulus test specified in the application.

Claims 27, 29, and 44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Both Claims 27 and 29 recited the method step of "testing modulus of said proposed asphalt emulsion mixture; and selecting said ... mixture to be used ... after testing modulus of said proposed asphalt emulsion mixture". The Examiner claims that Applicant did not specify which modulus is to be tested. Applicant specifically chose not to recite which modulus was to be tested because any type of modulus testing will be acceptable and it is the relative performance of the various mixtures being tested that is the important thing to be evaluated when testing the various proposed asphalt emulsion mixtures. It is the peak performance that is being sought in this test and any type of modulus testing would indicate those mixtures producing peak performance or this parameter. One skilled in the art would know a

method for testing asphalt emulsion mixtures since any modulus test would be capable of producing acceptable results.

Claim 44 employs the phrase “or other surface treatment”. The Examiner considers this phrase to render the claim indefinite. Applicant respectfully traverses. Those skilled in the art of road construction and repair would know the various types of surface treatments available for application over a paved road. However, Applicant has amended this phrase so that the phrase is more specific. The phrase now reads “or other acceptable road surface treatment”.

Claim 45 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wirtgen. Applicant respectfully traverses this rejection based on Wirtgen.

Wirtgen only teaches testing to determine the composition of the old, existing road. Based on this analysis of the existing road, the data from the Wirtgen analysis is then fed into an on-board computer 30 which then determines the materials to be added to the recycled asphalt pavement particles or RAP of Wirtgen. See column 2, lines 37-45; column 3, lines 15-18 and lines 51-57; column 4, line 64-column 5, line 4; and column 5, lines 48-54.

Wirtgen does not teach testing of actual blends to determine the performance or characteristics of those proposed asphalt emulsion mixtures as is taught in all of Applicant’s claims. Wirtgen teaches testing only one component of the mixture, i.e. the RAP, in order to determine the asphalt mixture to be blended. This teaches away from testing the mixture by first mixing the RAP and emulsion together and then testing with specific tests to determine performance of the sample

before selecting a final blend. For this reason, Applicant believes that Wirtgen alone neither anticipates nor makes obvious Applicant's invention.

Claims 25, 26, 27, 29, 30-32, and 34-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wirtgen in view of Bond et al. Applicant respectfully traverses this rejection, also. As previously discussed, Wirtgen only teaches testing of the RAP and does not teach testing of proposed asphalt emulsion mixtures. Asphalt emulsions involve totally different technology and considerations from organic or oil based asphalts. Bond et al. teaches use of recycled lube oil which is not an emulsion. Bond teaches testing on liquids and on the final asphalt blend, not on proposed mixtures. And Bond et al. does not teach the use of moisture susceptibility testing and ravel testing on those proposed mixtures. Bond et al. does not teach use of recycled asphalt pavement particles or RAP. There is no teaching in either reference which would indicate the desirability of combining the teachings of Wirtgen and Bond et al. This is particularly true since Wirtgen focuses on RAP and Bond et al. does not even mention RAP. Further Bond et al. does not employ an emulsion, Bond is solvent based, and Bond is a hot process.

It appears that the Examiner is citing Bond for the proposition that asphalt is created by mixing oil based binder with virgin aggregate and that the mixture can then be tested. Applicant will concede that hot asphalt mixtures are made this way and that the resulting asphalt can be tested with standard asphalt testing methods. However, Applicant's invention is not hot asphalt, does not employ virgin aggregate, is not solvent based, and does not employ standard asphalt tests. Specifically, moisture susceptibility and raveling are not standard tests for asphalt. Further,

Applicant's invention tests the performance of proposed blends prior to deciding on the final blend. Neither Wirtgen nor Bond et al. teach or hint of the desirability of doing this type of testing.

Even if those two references were combined, they still do not teach an asphalt emulsion mixture employing RAP like the present invention and do not teach the desirability of testing the proposed asphalt emulsion mixture. The present invention teaches use of emulsions which are essentially solvent free. Emulsions are water based and Bond et al. teaches organic based recycled lube oil. Further, Bond et al. does not teach use of recycled asphalt pavement particles or RAP, but instead is concerned with the use of recycled lube oil as the binder for aggregates.

The Examiner has made a statement on page 7 of the office action that Applicant feels needs to be addressed. The Examiner states in the first paragraph on that page that Bond et al. teaches that it is known to test recycled paving materials in a gyratory compactor. The next paragraph states that gyratory compactors are known in the art to conduct a "raveling test". Actually, gyratory compactors do not perform any type of test. A gyratory compactor is used solely to prepare a sample for testing by pressing or compacting the sample into a brick shaped form where it can then be tested.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wirtgen in view of Bond et al. and further in view of Kai et al. Applicant respectfully traverses. Kai et al. teaches creating adhesion by use of a third component, i.e. a molten phenolic resin coating. Kai et al. is adhering the phenolic resin to the aggregate surface by coating the aggregate with the resin and then attaching

asphalt to the same phenolic resin coating. This is clearly different than the teaching of the present invention. Phenolic resin is organic based and is not an emulsion and is not essentially solvent free as taught by the present invention. Kai et al. does not teach an emulsion. Kai et al. teaches hot asphalt, and the present invention is a cold emulsion process. Kai et al. teaches use of virgin aggregate and does not teach use of RAP. There is no indication that it would be desirable to combine the teachings of these three patents. Further, even if the teachings of these three references are combined, they still fail to teach the present invention which is an asphalt emulsion employing RAP and fail to teach the desirability of testing the proposed asphalt emulsion mixture with the specific tests recited in the claims. Kai et al. teaches that any test can be used, not the specific tests recited for the present invention.

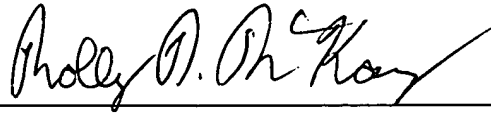
Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wirtgen in view of Bond et al. further in view of Burdick. Again, Applicant respectfully traverses this rejection. Burdick does teach a cationic emulsion. However, Burdick employs the cationic emulsion in the treatment of paper and there is no reason to combine the teaching found in this patent with the other two patents which relate to road construction. Applicant believes it is inappropriate to cite a patent directed to the treatment of paper against Applicant's asphalt for road paving since Applicant has no intention of employing cellulose in its method or products. Further, even if these citations are combined, they still fail to teach Applicant's invention since none of the cited patents teach the desirability of testing a proposed asphalt emulsion mixture.

Claim 45 is in the form of a product by process claim and therefore in determining patentability, the product is view as if not dependent upon its method of production. Therefore, if the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Applicant respectfully traverses. Applicant believes that the product from its process will be superior in composition and performance to the products that will be produced by other methods. This is the purpose for the testing in the first place, i.e. to produce superior asphalt emulsion compositions to those that would be produced without having conducted these tests and optimizing the composition. Even if the product could accidentally be made by another process, without the testing required in Applicant's method, the maker of the product would not know if their product truly was the same as Applicant's product and the product could not be created consistently to the standards that are possible with Applicant's product.

Applicant's new claims 46-51 are simply broadening claims similar to Claim 25 wherein the tests performed on the proposed asphalt emulsion mixture are placed in separate claims.

It is believed that this application is now in condition for allowance, and such action is earnestly solicited. The Commissioner is hereby authorized to charge any additional fees to the deposit account of the undersigned, No. 13-0470.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Molly D. McKay", written over a horizontal line.

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